

REMARKS

Claims 6-13 and 21-32 remain in this application for the Examiner's review and consideration. These claims are directed to an alcohol free perfuming composition in the form of a transparent water-in-oil or oil-in-water emulsion that is capable of being sprayed. This emulsion comprises an aqueous phase and an oily phase containing at least 3% by weight of perfuming ingredients relative to the total weight of the composition. The difference between the density of the oily phase and that of the aqueous phase is less than or equal to 0.007, and the oily phase of the emulsion comprises a volatile fluorinated oil having a density higher than 1. The technical effect obtained by the use of this oil is to bring closer the densities of the respective phases of the emulsion. The prior art does not teach such compositions.

Claims 6-13 and 21-32 were rejected for anticipation or in the alternative as being obvious over US patent 6,573,235 to Surbled et al. ("Surbled") for the reasons set forth on pages 2-4 of the action. Applicants traverse this rejection.

As noted, present claim 6 relates to a perfuming composition in the form of a water-in-oil emulsion. An important feature of claim 6 is further the fact that the emulsion is transparent. In order to be transparent, an emulsion must fulfill certain requirements. Transparency of emulsion is, therefore, not a self-evident matter and is not inherent for all emulsions (see, e.g., milk which is not a transparent emulsion). In the present invention, transparency is preferably achieved by the use of a very small droplet size (200 nm – 1 μ m, see published application at paragraph [0035]), which can easily be adjusted to be below the wavelength of light. With the droplets being smaller than the wavelength of light, transparency is obtained. In addition, the present invention resolves the problem of stability, see paragraphs [0003] to [0005], and the solution is provided by modifying the oily phase to have the same density as the aqueous phase, by adding a volatile fluorinated oil with a density of >1 . These features are not disclosed in Surbled.

Surbled does have some superficial similarities to the present invention because it does address similar objectives, such as the replacement of ethanol in a composition, but Surbled does this in a cosmetic composition, while the present invention achieves this result in a perfuming composition. To replace ethanol, Surbled provides aromatic compounds dissolved in hydrophobic dissolving agents which are hydrofluoro ethers. In the examples of Surbled, one can find that the cosmetic compositions consist essentially of the hydrofluoro ether and the perfuming ingredients dissolved therein. It is

further reported in these examples that the perfuming ingredients are well miscible with these ethers (see tables of examples 1, 3, 5 and 7).

In contrast, the presently claimed invention is not anticipated by Surbled, because Surbled does not disclose emulsions. Furthermore, the use of an emulsion in the present invention, whereby the oily phase of the emulsion comprises a volatile, fluorinated oil, constitutes a completely different and unexpected way of replacing ethanol than the way suggested by Surbled. As a consequence of the absence of an emulsion, Surbled also lacks further important features of the claims, namely the difference in the density of the oily and the aqueous phase of the emulsion. The aqueous phase being absent in Surbled, too, it is a logic consequence that this reference further fails to disclose any difference in densities.

Turning now to the obviousness objection, it becomes evident that the omission of an emulsion from Surbled provides a formulation that is lacking the difference of densities of the different phases of the emulsion. These cannot be inherently present, contrary to the Examiner's statement. Surbled proposes a completely different solution to the problem of replacing ethanol in a cosmetic preparation in that it solely uses hydrofluoro ethers instead of ethanol. It is clear that with this solution, hydrophobic hydrofluoro ethers constitute the entire solvent. There is only one, hydrophobic phase. Accordingly, the amounts of hydrofluoro ethers used are comparatively high, making up all the cosmetic composition but the perfuming ingredient.

In stark contrast, the present invention teaches the use of emulsions for completely replacing ethanol in perfuming composition. The emulsion is stabilized by volatile fluorinated oils in the oily phase of the emulsion (see independent claim 6). This enables the present invention to provide a much more elegant and economical solution to the replacement of ethanol in cosmetic or perfuming compositions. First, the emulsion comprises a continuous aqueous phase, in other words: water, which is a much less expensive ingredient than the hydrofluoro ethers of Surbled. In addition, water is indisputably friendlier to the environment than hydrofluoro ethers.

The present invention, when teaching emulsions constitutes a substantial improvement over Surbled as it permits the substantial reduction of the use of fluorinated compounds in the claimed composition allowing for the presence of water as a continuous phase in an emulsion. For this reason, the examples of the present application all contain from about 15-17 wt.% of water. In all these examples, the fluorinated oil necessary to adjust the density of the oily phase of the emulsions of the present invention provides only about 13-

17 wt.% of the total emulsion. Examples 1 – 7 of Surbled, in comparison, all provide 10 or 15 g of perfumed oil (essential oil, of lavender, peppermint, etc) in 100 g of hydrofluoroether, the latter thus constituting 87 wt.% to 90 wt% of the total cosmetic composition. The comparison of the examples of the prior art and those of the present invention, respectively, prove that the presently claimed emulsions permit a manifold reduction of fluorinated compounds in the overall composition.

The present invention also brings an advantageous improvement to the known transparent emulsions. In fact, it has been discovered that the addition of a certain ingredient to the oily phase of the emulsion could significantly improve the physical stability of the emulsion, in particular with regard to the creaming and sedimentation problems. In particular, the addition of such an ingredient to the oily phase of the emulsion makes it possible to narrow the difference between the respective densities of the two phases, so as to bring it within the limit defined above, namely lower or equal to 0.007, or even 0.005 in the preferred embodiments. The invention brings thus a novel solution to the known problem of physical stability, by providing means for acting on the relative densities of both phases. As noted above, this means is a volatile fluorinated oil.

There is nothing in Surbled that suggests the use of other than hydrofluoro ethers as solvents for the aromatic compounds. There is nothing in this patent that proposes or suggests emulsions as a vehicle for perfuming ingredients or fragrances. Furthermore, Surbled teaches away from the use of emulsions or other additives in the hydrofluoroethers. For example, in Example 5, line 8-10, Surbled looks carefully on the occurrence of a second phase, such second phase being “a consequence of the insolubility of the essential oil in the ENFB” (ethoxy nonafluorobutane). This illustrates that Surbled requires that the perfuming ingredients (here, natural extracts, essential oils) are well miscible with the solvents and that the occurrence of more than one phase, which would be the case in an emulsion, is to be strictly avoided according to Surbled. Consequently, by seeking to avoid multi-phase systems like emulsions, Surbled completely teaches against emulsions containing volatile fluorinated oils in compositions as does the present invention.


In summary, the teaching of Surbled is based on simply replacing ethanol in cosmetic compositions by hydrofluoro ethers. This does neither disclose, nor suggest or make obvious to the skilled person much more complex systems like emulsions, let alone transparent emulsions. The use of transparent emulsions is a further distinction of the present invention, and transparent emulsions are highly useful in perfumery products, as they enable

the perfuming ingredients to be added without visible detection. With the viscosity of the formulations being relatively low, the formulation can be sprayed without visible residues.

In view of the foregoing, it is believe that the rejection based on Surbled has been overcome and should be withdrawn. Accordingly, the entire application is now believed to be in condition for allowance, early notice of which would be appreciated.

Respectfully submitted,

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